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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,927	01/08/2004	Brent M. Ledvina	10845-150	6773

26486 7590 08/23/2005  
PERKINS, SMITH & COHEN LLP  
ONE BEACON STREET  
30TH FLOOR  
BOSTON, MA 02108

EXAMINER

GHEBRETINSAE, TEMESGHEN

ART UNIT PAPER NUMBER

2637

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

2

<b>Office Action Summary</b>	<b>Application No.</b> 10/753,927	<b>Applicant(s)</b> LEDVINA ET AL.	
	<b>Examiner</b> Temesghen Ghebretinsae	<b>Art Unit</b> 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 14-20 and 26-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 26-37 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by B.M. Ledvina et al. "A 12 Channel Real-Time GPS Software Receiver".

Consider claims 1-7. Ledvina et al discloses a GPS software receiver comprising: a receiver capable of receiving radio signal; means for digitizing the radio signal; and a software correlator. The software correlator comprises means for computing correlation between the baseband signal and at least one PRN using bit-wise parallelism and means for computing accumulations. The receiver further comprises application specific code capable of computing navigation data. The digitizing comprises means for down converting the radio signal and digitizing the IF as claimed in claim 5, .The digitizer produces at least one bit/sample and the digitizer is an analog to digital converter. (See fig.2 and abstract)

Consider claims 14-20. Ledvina discloses a software receiver comprising: a front-end device capable of receiving a radio signal, said front-end device

capable of converting the radio signal into signal data; a data acquisition device capable of receiving the signal data, said data acquisition device capable of providing the signal data to a microprocessor; at least one shift register capable of packing the signal data into at least one data word; a baseband mixer capable of computing at least one baseband mixed signal as a function of the at least one data word by using bit-wise parallel processing; a correlator capable of computing correlations between the baseband mixed signal and a pseudo-random number (PRN) code replica signal; and an accumulator capable of computing summed accumulations by accumulating the correlations. The signal data further comprises a signal sign and signal magnitude. The correlator uses the bit-wise parallel processing. (See abstract). The radio signal can be received from GPS. (See abstract and paragraph 4-6, pages 7-11; paragraph 6.2-6.3 and pages 16-19 and page 23. and fig.2.

***Allowable Subject Matter***

3. Claims 8, 26-37 are allowed.

***Response to Arguments***

4. Applicant's arguments filed 6/13/05 have been fully considered but they are not persuasive. Rejection based on B.M. Ledvina et al. "A 12 Channel Real-Time GPS Software Receiver" remains because the Declaration filed with respect to the non—published document is not persuasive.
5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temesghen Ghebretinsae whose telephone number is 571-272-3017. The examiner can normally be reached on Monday-Friday from 8 to 5. The examiner can also be reached on alternate.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on 571-272-2688. The fax phone number for the organization where this application or proceeding is assigned is 571-2723-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

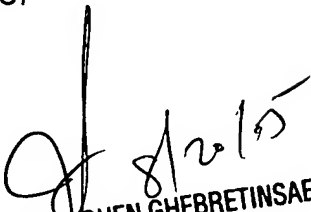
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Temesghen Ghebretinsae  
Primary Examiner  
Art Unit 2637

T.G.

8/20/05

  
TEMESGHEN GHEBRETINSAE  
PRIMARY EXAMINER